DEVOTED TO AGRICULTURE AND ALL ITS KINDRED ARTS AND SCIENCES.

Agriculture not only gives riches to a nation, but the only riches she can call her own. — JOHNSON.

VOL. II. SATURDAY, JULY 6, 1850. NO. 14.

S. W. COLE, EDITOR. QUINCY HALL, BOSTON. J. NOURSE, PROPRIETOR.

CONGRESS OF FRUIT-GROWERS.

[Concluded from p. 202.]

In our last number we gave a list of apples selected by the Congress for general cultivation; also a rejected list. We now proceed with other fruits.

PEARS.

List selected by the Congress in 1848.

Madeleine, Dearborn's Seedling, Bloodgood, Tyson, Golden Beurré of Bilboa, Bartlett, Seckel, Flemish Beauty, Beurré Bosc, Winter Nelis, Beurré d'Aremberg; *and for particular localities*, White Doyenné, Gray Doyenné.

Additional List selected in 1849.

Rostiezer, Belle Lucrative, Fulton, Andrews, Buffum, Urbaniste, Vicar of Winkfield, Louise Bonne de Jersey, Uvedale's St. Germain, for baking.

New Varieties, which give promise of being worthy to be added to the list for general cultivation.

Duchesse d'Orleans, Brandywine, Chancellor, Doyenné d'Eté, Beurré d'Anjou, Manning's Elizabeth, Brande's St. Germain, Pratt, Ott, Striped Madeleine, Ananas d'Eté, Jalousie de Fontenay Vendée, Van Assené, Doyenné Boussouck.

Rejected List.

Croft Castle, Swiss Bergamotte, Sousreine, Thompson of New Hampshire, Tucker's Seedling, Trubshurdy Dulle, Whitfield, Winter Orange, Wurtzer d'Automne, Yutte, Crassane, Winter Crassane, Citron of Bohemia, Madotte, Frederic of Prussia, Famenga, Forme Urbaniste, Fantasie Van Mons, Lederbirne, Louis Bonne, Lansac, Madame Vert, Miller's Seedling, Marquise, Marcellis, Navez, Alexander of Russia, Admiral, Aston Town, Autumn Bergamot, D'Amour, Angers, Beurré d'Angleterre, Beurré Seutin, Beurré of Bolwiller, Forme des Delices, French Iron, Green Fair, Grise Bonne, Garnstone, Green Catharine, Green Sugar, Gros Blanquet, Green Chisel, Hays, Hawthorne's Seedling, Horticulture, Hastiveau, Ipswich Holland, Jargonelle, (of the French,) Kramelsbirne, Lincoln, Louis of Bologne, Orange, Orange Tulippe, Phillips, Pitfour, Platt's Bergamotte, Passe Long Bras, Prince's Portugal, Pope's Scarlet, Cuvelier, Chat Grille, Chair à Dame, Charles Van Mons, (old,) Cassolette, Compte de Fresnel, Copea, Caillat Rosat, Clara, Bon Chrétien d'Espagne, Bon Chrétien of Brussels, Bergamotte Sylvange, Bergamotte Fortunée, Beauty of Winter, Belmont, Bezi Vaet, Bruno de Bosco, Blanquet à Longue Queue, Burgomaster, Elton, Royal d'Hiver, Rouslette St. Vincent, Swan's Egg, Saint Bruno, Clapp, Citron de Sirentz, Dearborn of Van Mons, Downton, Duquesne d'Eté, Doyenné Mons, Deschamp's New Late, Dumbarton, Doyenné Doré, Endicott, Pitt's Marie Louise, Rouse Lench, Sans Pepins, Surpasse Meuris, Fondante d'Eté.

List proposed for Rejection, but retained agreeably to a rule which is in our last number.

Ambrosia. — Mr. Elliott objected to its rejection.

Amande Double. — Mr. Manice, of Long Island, N. Y., objected.

Beurré d'Elbec. — Mr. Hovey objected.

Boucquia. — Mr. Hovey objected.

Bergamotte Parthenay. — Mr. Mantell, of New York, objected.

Cumberland. — Mr. Manice objected. He considered it a good baking pear.

Colmar d'Eté. — Mr. Hovey and Mr. Mantell objected.

Infant Prodige. — Mr. Parsons, of Flushing, N. Y., objected.

Gilogil. — Mr. Reid, Elizabethtown, N. J., and Mr. Mantell, objected. With them it was good on the quince.

Dodge. — Dr. Brinckle, of Philadelphia, Pa., and Mr. Hancock, of Burlington, N. J., objected.

Valle Franche. — Mr. Hovey objected.

Windsor. — Mr. M'Intosh, of Cleveland, O., Mr. Reid, Mr. Hovey, and Mr. Saul, of Newburg, N. Y., objected.

Rousselet de Stuttgardt. — Mr. Barry, of Rochester, N. Y., objected.

Belle de Brusselles. — Mr. Barry objected. With him it was a fine and beautiful fruit. Mr. Hovey objected. He said it was a very handsome, showy pear, but a third-rate fruit. Mr. S. Walker, of Boston, said the fruit was handsome indeed, but utterly worthless.

Sugar Top. — Mr. M'Intosh objected.

Sugar of Hoyerswerda. — Mr. Manice objected.

Princess of Orange. — Col. Hodge, of Buffalo, N. Y., objected.

Hessel. — Mr. Saul and Mr. M'Intosh objected.

Hericart. — Messrs. Hayes, of Newark, N. J., Manice, Hovey, and Saul, objected.

The committee having submitted their list of rejected fruits, Mr. Hancock proposed the *Dumortier* and the *Passans de Portugal*. Mr. Hovey objected to the former, and Messrs. Hovey and Walker objected to the latter.

Mr. Miller, of Carlisle, Pa., proposed to add *Prince's St. German* to the rejected list. Messrs. M'Intosh, Monson, of New Haven, and Terry, of Hartford, Ct., Manice, Hovey, and Col. Little, of Bangor, Me., objected.

The pears in the selected list are among the best in this section; but the foreign kinds are usually better adapted to the garden of the amateur, than to general orchard culture. They are rather uncertain, in the best locations, and with extra care. Further experiments will bring forward a larger list of native fruits; and on these we must rely mostly, especially for the north.

PEACHES.

List selected in 1848.

Grosse Mignonne, George IV., Early York, *serrated*, Large Early York, Morris's White, Oldmixon Freestone, Cooledge Favorite, Bergen's Yellow, Crawford's Late; *and for particular localities*, Heath Cling.

No list of peaches was selected in 1849. We have native peaches of the north, that are better for the market than the above, which, with one exception, are natives of a warmer climate.

PLUMS.

List selected in 1848.

Jefferson, Green Gage, Washington, Purple Favorite, Bleecker's Gage, Coe's Golden Drop, Frost Gage, Purple Gage; *and for particular localities*, Imperial Gage.

The Washington is rather insipid, very liable to rot, and a poor bearer. There are other kinds that are more profitable.

New Varieties of Plums, which give promise of being worthy to be added to the list for general cultivation.

M'Laughlin, Rivers's, Favorite, Quetsche, St. Martin's.

GRAPES. — *Selected in* 1849.

Under Glass.

Black Hamburg, Black Prince, Black Frontignan, Grizzly Frontignan, White Frontignan, White Muscat of Alexandria, Chasselas de Fontainbleau.

Native. — For open Culture.

Isabella, Catawba.

New, native and promising.

Diana.

NECTARINES. — *Selected in* 1849.

Elruge, Early Violet, Downton.

APRICOTS. — *Selected in* 1849.

Large Early, Breda, Moorpark.

RASPBERRIES. — *Selected in* 1849.

Red Antwerp, Yellow Antwerp, Franconia, Fastolft.

New and promising.

Knevette's Giant.

STRAWBERRIES. — *Selected in* 1849.

Large Early Scarlet, [or Early Virginia. — Ed.] Hovey's Seedling, Boston Pine.

New and promising.

Burr's New Pine, Jenney's Seedling.

We have made experiments which show that the Large Early Scarlet of New York is the same as the Early Virginia of New England. It is evident that the Early Virginia of New York is a different fruit.

CURRANTS. — *Selected in* 1849.

Red Dutch, White Dutch, White Grape, May's Victoria, Black Naples.

GOOSEBERRIES. — *Selected in* 1849.

Houghton's Seedling, Woodward's Whitesmith, Crown Bob, Red Champagne, Early Sulphur, Laurel, Warrington, Green Gage, Green Walnut, Ironmonger.

The Congress adjourned to meet in Cincinnati, in 1850.

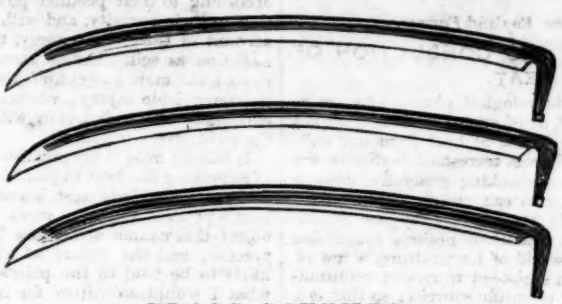
QUINCE STOCKS FOR THE PEAR.

The editor of the New England Farmer gives it as his opinion, that pears will flourish as well on quince stocks in New Hampshire (lat. 43° 15′) as in a more southern clime. We have always supposed this was not the case, as many trials have been made to raise quince-trees in that vicinity, and so far as our knowledge extends, they have invariably winterkilled. At any rate, we should prefer pear stocks. — *Plymouth Rock.*

The editor of the Rock mistakes in his supposition that quince-trees will not endure the cold of the north. There may be some tender kinds that are liable to injury. We have seen quince-trees growing in Maine, (lat. 43° 45′) without injury from the winter. The Shakers in Alfred, Me., used to raise about fifteen bushels of quinces annually; and quinces have been raised on the Kennebec, in Maine. We cultivate several kinds of quinces, and they appear to be as hardy as other fruit trees. We should prefer pear stocks, (excepting for dwarfs,) as is remarked in the above article; but that was not the subject. The question was as to the hardiness of the quince for stocks in that climate. Its utility, compared with the pear stock, is another question, and much depends on the purpose for which it is cultivated, whether for large standard trees for the orchard, or for dwarfs in the garden.

THE BEE-MOTH. — It will be seen by the advertisement of Mr. Whalen, on our cover, that he calls the attention of the public to a new mode of preventing the depredations of the bee-moth. We have no knowledge of this mode. Mr. W. is said to be known as a writer on agriculture, and as the presiding officer of the Saratoga Agricultural Society.

MAGNOLIA. — In a former number of the Family Visitor, we described some of the species of this genus of trees, and recommended their cultivation as an ornament to our parks and door-yards. At this time, (May 7,) the *M. Purpurea*, *Conspicua*, and *Sololangiana* are in full bloom with us. Their showy and beautiful flowers attract much attention. — *Family Visitor.*



GRASS-SCYTHES.

The scythe is a very valuable implement, as by its aid one of our most important crops is secured; and as it is used at the most busy season of the year, it should be of the first quality, and kept in the best condition. In some cases a farmer would better pay the price of a scythe for its use only one day, in order to have a first-rate tool, rather than use a poor one. A good implement not only saves strength, but it makes a great gain by expediting labor. The ton of hay that is left standing in consequence of the slow progress of the mowers, from the use of poor tools, may stand too late, and lose in quality enough to pay for several scythes.

Of late years, less improvements have been made in the scythe than in most other farm implements. When a boy, we used to admire the workmanship in the construction of the scythe, by which a tool of so much extent was made very neat, light, and frequently so well tempered as to preserve its firmness, give it a keen edge, and yet avoid breaking or turning against hard substances, unless some luckless wight, who had more strength than judgment, occasionally spent the former in bringing his scythe against a granite stone.

Within a few years past, there have been great improvements in the manufacture of scythes, by the use of superior machinery, by which the work is both greatly expedited and facilitated. Some improvements have also been made in the form of this implement. Formerly the scythes were generally made very long, and much curving at the heel; recently, they are usually made a little shorter, (and of course they are hung out further,) and they are less crooked at the heel, but they have a gentle curve from the heel to the point. This construction makes the scythe lighter, and the labor of using it less, as the mower has better command of the scythe, particularly on rough land.

A great deal depends on the right use of the scythe. We have known a man of only moderate strength to mow all day with one of double the strength, and do as much labor. At the close of the day the weaker man would be much less fatigued than the stronger. The mower who is skilful, swings his scythe gently, and injures it but a trifle if he strikes an impediment, while one who depends more on strength than skill, will strike with all his might against a stone, dulling his scythe so that there is much delay in grinding; and perhaps by twisting it out of shape, and such rough usage, it is soon worn out, or it becomes misshapen, and its firmness and elasticity are destroyed.

To mow with ease, the scythe should be swung gently, in a horizontal line, or parallel with the surface of the ground, entering the grass nearly on the right of the mower, and leaving it, or cutting the last part nearly on the left; so that the standing grass in the swath will be nearly in a semicircular form.

GRAIN-SCYTHE—BUSH-SCYTHE.

The grain-scythe is broad, and is peculiarly constructed for the purpose of cutting grain. With the use of this scythe, in a cradle, one man will cut grain as fast as four men with sickles.

The bush-scythe is an implement necessary for almost every farmer; though some may be so neat as to have their farms free from bushes. In many cases the grass-scythe is used to its injury, in cutting up bushes in the field, which should be done by a stouter tool, well adapted for that very purpose.

For the New England Farmer.

THE RADIATION AND CONDUCTION OF HEAT.

Mr. Cole: No meteorological phenomena are so pregnant with interest, or of such preëminent import to the farmer, as the transit of heat from one substance to another, and from terrestrial bodies to the atmosphere. And yet, speaking generally, there is scarcely a cultivator who can clearly explain their nature, or definitively state how they are accomplished. Many most ridiculous notions concerning them are rife in the world of horticulture, a few of which have even been supposed to receive confirmation from professedly scientific sources; so that it is incumbent on some one to place the subject in so simple a light, that no further mistakes may be justifiable.

Philosophers have long since determined that changes of temperature, in common with all other procedures of nature, are regulated by certain unvarying laws. Of these, one of the most prominent is the transition of heat from a warm body to any cold one that may be contiguous, till the temperature is equalized. Now, although air is too seldom regarded as a refined and subtile substance, such is its unquestionable nature. Hence the process termed *radiation* is, in point of fact, though to a limited extent, a kind of *conduction*; the small particles of matter of which the atmosphere is composed being the media through which, when brought into contact with objects on the earth's surface, their heat is abstracted.

The above position does not, however, wholly hold good; since heat is said to be capable of pervading a vacuum, and matter cannot consequently be a necessary auxiliary to its dispersion. For all practical purposes, therefore, and likewise to facilitate the inculcation of the precepts of science, a very proper distinction is made between radiation and conduction. Both are the result of expansion — one of the most striking properties of heat; but the former is the means through which the temperature of a body is lowered by diffusing itself into a colder *air*, while the latter term is applied to the passage of heat from a warm *solid* substance to a cold one, when placed in immediate contact therewith.

Radiation, as the very word implies, is the divergence of a number of heated atoms, in the forms of rays, from a body thoroughly warmed; or, as some assert, it is the mere emission of calorific rays, causing a greater or less undulation in the constituents of the atmosphere, whereby an increase of temperature is occasioned. Thus the sun radiates heat perpetually, some of its rays being transmitted through our air to the earth, by which they are received, and from which, during the absence of that brilliant luminary, they again emanate in a similar manner. It is very frequently confounded with refraction, which is quite another process, and most markedly different; radiation being the simple issue of heat from any surface, and refraction the interception of its rays by an interposed screen, and their re-radiation from thence towards the point from whence they originally proceeded. For example, the earth *refracts* many of the rays that reach it from the sun; and it is chiefly from this cause that the geniality of our atmosphere arises. But it also *imbibes* other rays, and the *radiation* of these serves to prevent a coldness during the night, that would be wholly destructive to both animal and vegetable life.

Having thus laid the basis of the application of artificial coverings to plants on the principles of science, the following hints on protection will not be misapprehended. Plants, being formed of earthy and atmospheric elements, combined and concentrated according to their peculiar powers, have, in proportion to their porosity, and with a slight reduction on account of their vital energy, the same tendency to radiation as soil. Unless, then, this be duly interrupted, the more susceptible kinds must be subjected to irremediable injury; whereas, if radiation can be effectually suspended, they will be perfectly safe in the most severe weather.

It follows from these premises, that the old method of supplying fire heat to plant-houses, where the sole design is to exclude frost, is radically wrong; indeed, it is a positive and total waste, expended, too, on an object that cannot sometimes be realized by such a practice, and the failure of which is more or less likely to be fatal to the plants. If it be demanded what I would substitute for it, I would suggest — *prevent the escape or radiation of heat*, and there will be no need to essay the supply of a deficiency that does not exist.

If these hints on radiation have received half the attention which their subject demands, the reader will be ready patiently to pursue the investigation as it concerns conduction. I have distinguished the two processes by showing that the first phrase characterizes the transmissions of heat to the superincumbent air, while the topic now to be discussed embraces the deprivation of temperature which a body suffers on being touched by a colder one. On the extent to which the latter circumstance is obviated, the merits of any system of covering plants, whether in houses, frames, or the open ground, must to a very great degree be wholly dependent.

It is notorious to every inquiring person, that heat is much more speedily dissipated when the substance containing it is in direct connection with some less highly heated material. But the more humble members of our profession find it difficult to comprehend or believe this fact; let us then, adduce an easy illustration. If a bar of cold iron (which, perhaps, is one of the most rapid conductors of heat) be placed within an inch of a person's hand, the diminution of caloric, (heat,) which its vicinity occasions, is scarcely perceptible; but if the same substance be grasped, or laid on the hand, the abstraction of heat is so sensibly felt, that without a strong effort of volition, the iron would be immediately dropped. Again, the atmosphere of an apartment may be exceedingly comfortable as regards temperature, and altogether consonant with the appetencies of a sensitive person, while by pressing the hand against glass of which the outer side is exposed to a severe external air, considerable pain will be experienced from the loss of caloric consequent on such an act.

I have chosen these commonplace examples the more completely to demonstrate the position, although the experience of the cultivator of extensive practice might at once decide this point. There is the most apposite analogy, in respect to heat, between an individual in a confined room, and a plant in a sort of tent-like, or any other protective frame. Both may be kept from perishing by frost if situated in the middle of the area, but both must undergo the loss of those parts which are in contact with a thin covering closely communicating with the outer air, if frost be sufficiently severe. Proofs of this have often been furnished in the case of plants whose shoots touched the glass or mats by which they were surrounded.

Herein, therefore, lies the art of protecting plants. They must first be enveloped in a material which is known to be an imperfect radiator of heat, so that their own temperature may, for the most part, be retained within or around them. And secondly, that material should be so disposed that no part of it be nearer than about two or three inches to the exterior shoots. The importance of confining and tying in

the outer branches of shrubs that are wished to be covered, will thus be plainly discernible.

Plant-houses and frames have yet to be treated of. It is generally imagined that no resemblance is traceable between the operation of sheltering these, and that of protecting isolated plants, because specimens in the former are already guarded by a sheltering surface. The principle, however, remains unaltered and unalterable, whatever may be the conditions in which the plants exist; and is as applicable in the one instance as in the other. Glass, it is well known, radiates heat with astonishing rapidity, and the temperature which a glazed surface derives from the house or frame beneath it is so great, that were the additional covering made use of allowed to lie flatly upon it, heat would be conducted from the entire apartment with very little less celerity than if the glass were exposed, or this last removed, and mats substituted for it; the only difference of result from the cases before mentioned being, that the *whole plant* would be rather more slowly robbed of its caloric, instead of at once merely having a single member frozen. BERNARD REYNOSO.

For the New England Farmer.

WILD CHERRY POISONOUS.

Mr. Cole: I noticed, in a late Farmer, an article copied from the Berkshire Culturist, of a number of cattle killed by eating the twigs of the wild or black cherry. I never have personally known of an instance of cattle having been injured by eating the wild cherry twigs or leaves in their green state; though when the leaves are wilted, they are known to be poisonous. I should not suppose that cattle would browse enough of the cherry twigs to kill them, though this might be, and in this instance was probably the case. This circumstance reminds me of a note which I addressed to the Albany Cultivator, on this subject, a few years ago. A reply was given, which was, no doubt, from the pen of the late and lamented Willis Gaylord. It reads thus: —

"It is known that the leaves of the wild cherry, if eaten by cattle, when they are just wilted by the sun, will kill them; whereas when they are green, and also after they are dried, they are not at all hurtful to cattle. Can you give us the reason why just at the wilt of the leaf, they are poisonous?

"L. Durand."

"Reply.—The poisonous qualities of the cherry are owing to the prussic acid which they contain; and of the various kinds of cherry, the laurel or bird cherry is the most dangerous. It was from the leaves of this tree that the poison was formerly obtained. While the leaves are fresh, the poison is so diluted with the juices, that it loses most of its energy; and besides, animals cannot eat the same quantity of fresh leaves that they will of wilted ones. The consequence is, they obtain from the wilted leaves a much larger quantity of poison, and that in an undiluted state. In drying the leaves thoroughly, the poison is lost with the other juices; for of all poisons, prussic acid is the most difficult to confine or retain in purity. The numerous instances of the death of animals from eating wilted cherry leaves, should render farmers cautious how they allow cattle to have access to them in that state, or, indeed, to any extent in any other. — Ed."

If this will benefit you or your readers, you can give it room in the Farmer. It may be found in the Cultivator, Sept. 1843, p. 140.

Yours, &c., L. DURAND.

Derby, Ct., *June* 11, 1850.

Remarks.— We copy the following from the American Veterinarian, but we do not now recollect the authority for stating that green cherry leaves are poisonous; but it is stated on some authority which we considered reliable.

"It has been stated that cherry leaves are free from poison until they have wilted; but cases have occurred in which the green leaves have poisoned animals. It is said that they contain *prussic acid*. Peach leaves contain prussic acid also, and they are supposed to be poisonous."

In regard to the peach, it should be considered that it is strongly allied to the almond, and that prussic acid is made from the bitter almond.

As to green leaves being poisonous, they may be less so than the wilted, and yet be injurious in large quantities. Some comparatively mild liquors are regarded as not intoxicating, as they contain so small a percentage of alcohol that but few have a stomach of sufficient capacity to hold liquor enough for the alcohol to seriously affect the brain. We once heard an old toper say (as he was pouring down cider, resting occasionally, and fetching a long breath, as the perspiration ran down his face) that he could get drunk on cider, but it was *hard work*.

Cattle and horses will feed by the side of yew, as it is growing, and will not eat it. Left to nature, they shun poison; but when the leaves are dried and mixed with hay — prepared by art — they will eat them, and often die suddenly from their poisonous effects. — Ed.

For the New England Farmer.

WINTER WHEAT.

Mr. Cole: I have pursued the following plan in the growing of wheat: —

1st. Spread manure, and plough in.

2d. With the first harrowing, spread a little *more* manure, and ashes or slaked lime.

3d. Ash or lime the grain when sowed.

4th. *Plough* in if possible, or *cultivate* in. Deep planting (say two inches) protects the roots from being broken off by spring thawing and freezing.

5th. Turn over old mowing stubble. The heat of the second crop, with the manure to aid it, produces better wheat than old, rich, cultivated soil.

6th. Get in the crop by the 1st September, and should it make too much growth, (little danger of this,) let in the calves, and keep it down.

7th. Roll hard, and should the sod appear hard as a pavement, the grain readily springs up.

8th. *Spring rolling* packs the roots, and spreads the grain. This process is of vast benefit to newly laid down grass lands.

Now, a word for the consideration of farmers. Winter wheat, like winter rye, yields a third more than spring wheat, is far superior in quality and color, ripens earlier, is less liable to *rust*. It *ripens* three weeks earlier, the *labor* is performed in a less busy season, (August and September,) and to crown all, our crop is as sure as in Ohio, or any western state, and averages as large.

They raise ten to twelve bushels to the acre, average, for a term of years, as recently stated by a gentleman from that state. We *can* and *will do better*.

There are wheat fields now, in Essex county, of great luxuriance and promise. Referring to one in particular, is a piece belonging to Rev. Mr. Loring, North Andover, which was sown and stocked down

to grass last September. The wheat is in fine condition, and the grass is also doing well. It was sown on *sod*, or mowing land. Winter rye was sown alongside, on old, rich, cultivated ground, under much more favorable circumstances, apparently; the rye is almost a total failure, while the wheat is of much promise.

But when *prejudice* ceases to be tolerated, when groundless *fears* shall be overcome, when pugnacious editors shall yield to facts, and allow *experience the benefit it would impart*, we trust the "Old Bay State" may yet be made "to bud and blossom like the rose."

In bringing this notice thus early in the season before the farmer, it is for the object of his casting about the farm for a *little patch* for an *experiment* in wheat growing; and should you prosper, ask your legislature to give you a bounty of ten cents a bushel, more or less; and should you succeed, my word for it, the oxen would be yoked, the plough set in motion, and it would become an onerous tax to the state before five years had expired. Would not its direct benefits accrue, it being a product of our own soil, and from our own labor?

Yours respectfully, H. P.

Boston, *June* 15, 1850.

Remarks. — As this article is from one who has good success in raising winter wheat in this region, we hope that his recommendation will be duly considered by our farmers. We know of cultivators who raise winter wheat with almost invariable success. Why will not others, with equal advantages, try and see what they can do, and not be discouraged without even making the attempt?

We have on hand a small quantity of Koss Blue Stem winter wheat, which we received of Hon. Rufus M'Intire, of Parsonsfield, Me., for distribution. We should be pleased to supply those who would try it. See our first volume, pp. 11, 320, 327. — Ed.

For the New England Farmer.

OF WHAT IS INDIAN CORN COMPOSED?

Mr. Cole: In your paper of June 3 is a communication from A. W. Dodge, referring me to the essay of Mr. Flint, published in the Transactions of the Essex Agricultural Society; where it is stated that Indian corn contains 17 per cent. of phosphate of lime. I think the table in which this statement is found is an analysis of the ashes of Indian corn, not of corn before it is burnt; for in the table which he gives from Dr. Dana, he says that all the salts amount to but 1.31 per cent. It appears to be the object of Mr. Flint to show that corn abounds in fat-forming principles, not in phosphates. It cannot be a correct explanation of his essay that Indian corn contains 17 per cent. of phosphate of lime; accompanied, as that table is, by Dr. Dana's, in which it is stated that the salts, including phosphate, sulphate, and carbonate, amount to but 1.31 per cent. Corn, when compared with other grain, is found wanting in phosphate; the same analysis which finds 17 per cent. in the ashes of corn, finds 40 per cent. in oats.

In Professor Hitchcock's report on a re-examination of the Economical Geology of Massachusetts, p. 45, it is stated, that Indian corn, by the analysis of the late Professor Gorham, of Harvard College, contains 1.5 per cent. of phosphate and sulphate of lime.

If chemists can find but little more than 1 per cent. of phosphate of lime in corn, and if our hens cannot find enough in it to form the shells of their eggs, is it strange that our cows, whose bones, when in a healthy state, contain 50 per cent. of phosphate of lime, should suffer for the want of it when they are giving milk? WM. R. PUTNAM.

North Danvers, 1850.

For the New England Farmer.

TO PREVENT THE PEACH-BORER.

Mr. Cole: I have long been much interested in every thing pertaining to the culture of fruit, though hitherto I have not been in a situation to accomplish much at it *practically*. And among those matters of interest which have attracted my attention particularly, the "peach-borer," its ravages, and remedy, have occupied a prominent place. I have tried, during a course of years past, almost every means of relief and protection that seemed to promise success, and was within my reach; but all to very little purpose, until about a year since, inasmuch as my trees would invariably fall victims to that destructive pest, by the time they attained sufficient age to begin to produce fruit. A little more than a year since, I noticed, in some publication, a hint that *crude horse manure*, packed around the collar of the tree, might probably prove useful as a preventive. Accordingly, in the spring of 1849, (having left that part of my trees naked and exposed to the influence of the previous winter,) I applied the horse manure, closely packing it around the collars of the trees, and covering an inch or two deep with the ashes of hard coal. My trees were unmolested during the season, and upon a partial examination last fall, and a more thorough one this spring, they were all found in excellent condition, except one; and that contained but one solitary grub, which, from its size, had probably summered and wintered there, having escaped detection at the time of originally packing the tree. I have repeated the process this season, and hitherto not a sign of the borer appears. From my experiments thus far, I am inclined to think that this, if *faithfully applied* every spring, will prove a very effectual protection against this troublesome enemy.

Yours, with much respect,

T. M. DWIGHT.

Weathersfield, Ct., *June* 18, 1850.

Remarks. — As the experiments made by Rev. Mr. Dwight promise that he has discovered a very simple and convenient remedy for a great evil, we hope that many of our readers will make the application at the proper season, and report the result, that its efficacy may be fairly tested, and the question of its utility settled. — Ed.

For the New England Farmer.

THE CURCULIO.

Mr. Cole: Much has been said as to the habits of the curculio, and modes of destroying it. I have tried two modes this season, viz., — First, with sulphur water; and rather thinking it of no avail, I adopted the second mode, by spreading a cloth under the trees, and shaking them; and think this the only sure remedy, as I have destroyed more than one hundred the past ten days; first commenced destroying from fifteen to twenty per day, the last two days only four or five, on plum-trees. I found two on a cherry-tree. I have not tried this class of trees much.

My object in writing you now, is merely to know

what species of *bugs* or *insects* those large ones are, in a vial I have sent you for inspection, in company with a few curculios. I send them to you, thinking they might be of some use, for you to show to some of your friends.

I have found that I did not commence soon enough destroying the curculio on the plum-trees, as you will find by the punctures on some of the plums and cherries I have sent to you. Yours, respectfully,

BENJAMIN BOYNTON.

STONEHAM, *June* 18, 1850.

REMARKS. — Among the common curculios which our correspondent has sent to us, are a few about six times as large, or about twice as long, and twice as large in diameter. We have examined these insects through a magnifying glass; but as the large ones were dead when we examined them, we could not have so good an opportunity to judge of their appearance.

The larger ones appear to be precisely of the same form and color as the smaller, but it is rather surprising that the same insects should be together, of sizes so widely different. A question arises whether they are of the same species. A few years ago, a friend sent to us some curculios of different sizes, precisely like these. It was then stated that the larger insects did not do any damage, though found in company with the smaller kind, that were destroying the plums. A question may arise whether the larger insects were mere spectators, or did their mischief unperceived by our friend.

For the New England Farmer.

MILLET.

MR. COLE: We have sometimes grown this grain for the purpose of feeding to milch cows, when green. It may be sown as late as the 10th of July: it does not rust like oats and barley when sown late, but it requires a fine, well-pulverized soil, and fine manure. When there is a prospect of the hay crop being light, it is well to mow a piece of land early in July, and plough and harrow it well, and sow millet for the purpose of curing it for winter fodder. It does not yield so much as corn for green food, but it is much easier cured, and makes better dry fodder than corn.

If the present hen fever should rage long, it may become an important crop for feeding young chickens, as they are very fond of it, and thrive well upon it.

WM. R. PUTNAM.

WHY ARE ASHES MORE VALUABLE THAN LIME OR GYPSUM AS FERTILIZERS?

Our neighbors of Long Island have become famous for their trade in ashes. They send their boats the entire length of the Mohawk valley, and they would push their enterprise as far as the Black River valley, if the Black River Valley Canal was complete; and they could well afford to transport not merely the live ash, but the refuse ash, which has been exhausted for its potash. They have been in the habit of buying the refuse of the asheries of Albany and Troy, and paying as much for it as the soap-maker paid originally for the live ash. In looking about for a fertilizer, the Long Islanders have found by experience, that they form the best which they can employ. The question which we have propounded demands an answer; we therefore proceed to state, that ashes owe their value to their composition. Our reader will, perhaps, say that he knew this before. Very well. We say again, and more to the point, that ashes, spent and unspent, owe their principal value to the potash in the first instance, and to the phosphates, and to lime and magnesia, in the second. We design to speak mainly of spent ashes; though we believe farmers had much better keep all their ashes for their corn and wheat lands, rather than sell them for one shilling per bushel.

Spent ashes, then, we repeat, are valuable for the phosphates they contain, together with the lime and magnesia, which are in a state of great subdivision. Besides the foregoing elements, silex, both soluble and insoluble, is present. The amount of the former will vary in the quantity, by the intensity of heat to which the vegetable may have been subjected; and both will vary according to the plant from which they may have been obtained. Thus the yellow pine, which grows on the sandy lands west of Albany, contains in its ash of bark nearly one half of its weight of silica.

When the value of ashes is sought for, it may with propriety be said, that they rank next to bone-dust, — containing, as they do, phosphate of magnesia and iron, together with a large percentage of lime. The ash of the forest, as well as fruit-trees, is as various as their own products; scarcely two agreeing either in the amount of ash they yield, or in the elements which compose it. — *Farmer and Mechanic.*

TURNING IN GREEN CROPS.

During the last ten years, the practice of turning in green crops has been extensively adopted; and, so far as my observation extends, it has been attended with the most flattering results. Old, worn-out fields, which had become so thoroughly emasculated as scarcely to repay the cost of cultivation, have, by this process, been thoroughly renovated, and at a less cost, probably, than they could have been in any other way. In passing through the country, our attention is often drawn to farms which have been impoverished, by an enormous and emasculating system of cropping, to the state of barren karro fields. Nothing can be more forbidding than the appearance of barrenness which they exhibit; yet even those are not hopelessly barren. By ploughing under the slight vegetation they produce, and following up the undertaking by a liberal application of lime, unless the soil itself is of a calcareous nature, and then sowing buckwheat, peas, or clover, to be turned in when in blossom, a degree of energy will be communicated which will secure the continuance of increased and increasing fertility, and, under a judicious system of rotary cropping, insure good crops for a period of many years.

"'Tis folly in the extreme to till
Extensive fields, and till them ill;
Shrewd common sense sits laughing by,
And sure your hopes abortive die;
For more one fertile acre yields,
Than the huge breadth of barren fields."

Some have recommended millet as an excellent article for turning in; but, of all cultivated crops, with the exception, perhaps, of red clover, I consider buckwheat the best. By commencing early, three crops of this grain may be turned in in one season, a dressing which will be found sufficient, under ordinary circumstances, for the most exhausted soil, and which is by no means objectionable on the score of expense or cost.

A PRACTICAL FARMER.

BALD EAGLE FARM, *May* 22, 1850.

— *Germantown Telegraph.*

TREATMENT OF HAY.

Hay, in England, is scarcely ever put in barns. It keeps well in stacks, made up as they are in the neatest manner, and carefully thatched with straw. Nothing can be more beautiful and workmanlike than the manner in which these are made up; and for hay, the long stacks are decidedly preferable to those of a round form, as it is cut down for use, in such case, with more advantage. The formation of a stack, which is often done by women, is a work of much skill, which is the fruit only of practice; the thatching of a stack in the best manner requires both art and experience, and there are men who make it a profession. When well executed, the hay for years is impervious to wet. During the formation of the stack, — which, when intended to be large, must sometimes wait for several days the progress of the haymaking, — the most careful farmers have a large tarpaulin or canvas covering, to suspend upon poles over the stack, in order to protect it from the rain. I refer to these minute circumstances, to illustrate the extreme carefulness with which many of the operations of husbandry are here conducted. When the hay is to be used, a whole stack is never removed to the stables at once, but is carefully cut down as a loaf of bread might be cut, and always done up and bound in trusses, intended to be of fifty-six pounds each, and in that way carried to be distributed to the animals. This requires some extra labor; but the farmers find their account in it. How different this is from the careless and wasteful manner in which things are managed with us, where I have often seen horses and oxen standing knee deep in the litter of the very best hay, which has fallen and been tossed out of the mangers! The consequence of this extraordinary painstaking is the most economical management of their products. The animals have a regular allowance, and are not at one time surfeited, and at another time starved; and not a handful of hay is wasted. I have never been quite able to understand the old proverb, that "a penny saved is twopence earned;" but I quite understand the folly of wasting that which is the product of severe toil and expense, and the immorality of throwing away that which the bounty of Heaven bestowed for the comfort and sustenance of man or beast. I once heard a minister say, in his sermon, that some persons were charitable in spots. I think, in a similar sense, it may be said that some persons are economical in spots; and that many persons who will chaffer and higgle half a day, to save a sixpence in the price of an article, will often throw away shillings in their neglectful or wasteful use of it. — *Colman's European Agriculture.*

ADVANTAGES OF FORESTS.

The Honorable G. P. Marsh, in his address before the Rutland County Agricultural Society, makes the following excellent observations in regard to the advantages of forests: —

"The functions of the forest, besides supplying timber and fuel, are very various. The conducting powers of trees render them highly useful in restoring the disturbed equilibrium of the electric fluid; they are of great value in sheltering and protecting more tender vegetables against the destructive effects of bleak and parching winds, and the annual deposit of the foliage of deciduous trees, and the decomposition of their decaying trunks, form an accumulation of vegetable mould, which gives the greatest fertility to the often originally barren soils on which they grow, and enriches the lower grounds by the wash from rains and melting snows.

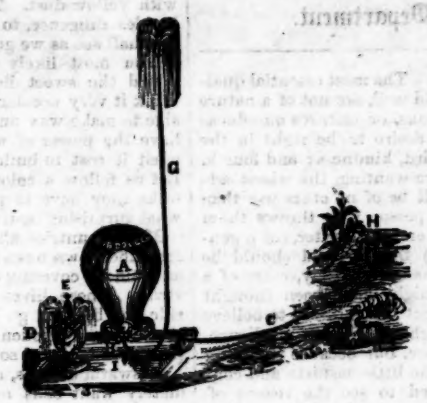
"The inconveniences resulting from a want of foresight in the economy of the forest, are already severely felt in many parts of New England, and even in some of the older towns in Vermont. Steep side hills and rocky ledges are well suited to the permanent growth of wood; but when, in the rage for improvement, they are improvidently stripped of this protection, the action of sun, and wind, and rain soon deprives them of their thin coating of vegetable mould; and this, when exhausted, cannot be restored by ordinary husbandry. They remain, therefore, barren and unsightly blots, producing neither grain nor grass, and yielding no crop but a harvest of noxious weeds, to infest with their scattered seeds the richer arable grounds below. But this is by no means the only evil resulting from the injudicious destruction of the woods. Forests serve as reservoirs and equalizers of humidity. In wet seasons, the decayed leaves and spongy soil of wood lands retain a large proportion of the falling rains, and give back the moisture, in time of drought, by evaporation, or through the medium of springs. They thus both check the sudden flow of water from the surface into the streams and low grounds, and prevent the droughts of summer from parching our pastures, and drying up the rivulets which water them. On the other hand, where too large a proportion of the surface is bared of wood, the action of the summer sun and wind scorches the hills which are no longer shaded or sheltered by trees, the springs and rivulets that found their supply in the bibulous soil of the forest disappear, and the farmer is obliged to surrender his meadows to his cattle, which can no longer find food in his pastures, and sometimes even to drive them miles for water. Again, the vernal and autumnal rains, and the melting of snows of winter, no longer intercepted and absorbed by the leaves or the open soil of the woods, but falling every where upon a comparatively hard and even surface, flow swiftly over the smooth ground, washing away the vegetable mould as they seek their natural outlets, fill every ravine with a torrent, and convert every river into an ocean. The suddenness and violence of our freshets increase in proportion as the soil is cleared; bridges are washed away, meadows swept of their crops and fences, and covered with barren sand, or themselves abraded by the fury of the current; and there is reason to fear that the valleys of many of our streams will soon be converted from smiling meadows into broad masses of shingle, and gravel, and pebbles — deserts in summer, and seas in autumn and spring."

HOW TO DESTROY MOLES.

Mr. Bateham: I see several articles in the Cultivator respecting moles, and the most easy way to destroy these pests of the garden and cornfield. Several years ago, I cleared my ground of them almost entirely, by the use of the castor oil bean. My practice was to take a handful of the beans in my pocket, and wherever I found one of their roads, I just thrust my forefinger through the crust, dropped in from six to ten beans, and covered up the orifice. The next time the mole comes along, he eats the bean, and is thus destroyed. We think this a much safer and easier method than any we have seen, as most poisons lose their strength in a very short time, when put in the ground. A single plant in a garden, well cultivated, would produce beans enough to poison moles for a number of years. It grows easy, and is a fine-looking plant. I have always succeeded in raising as many as I wanted.

Yours, &c.,
SAMUEL BLACK.

— *Ohio Cultivator.*



IMPROVED HYDRAULIC RAM.

H, spring or brook; C, drive or supply pipe, from spring to ram; G, pipe conveying water to house or other point required for use; B, D, A, E, I, the ram; J, the plank or other foundation to which the machine is secured.

This is a perfectly simple and effective machine for forcing a portion of a brook or spring to any required distance or elevation, where a proportionate fall can be applied. The various uses of the ram are at once obvious, viz., for the purposes of irrigating lands, and supplying dwellings, gardens, farms, factories, villages, engines, railroad stations, &c., with running water.

The simplicity of the operation of this machine, together with its effectiveness and very apparent durability, renders it decidedly the most important and valuable apparatus yet developed in hydraulics, for forcing a portion of a running stream of water to any distance and elevation proportioned to the fall obtained.

We will briefly explain the operations of this machine. A small stream of water — say of one or two inches diameter — has a descent of four feet, passing through this machine. As it passes with increasing rapidity, it soon lifts up a valve that closes the place of its discharge from the machine. The velocity of the water in its descent gives it an impetus or force which, when the valve is closed, forces the water up the pipe G, until its force from its velocity is spent; then the valve at the place of discharge falls, and allows the water to pass on again through the machine, as at the beginning; at the same time, a valve in the bottom of the pipe G closes, and sustains the water in that pipe. These operations and changes are repeated in rapid succession. A represents an air chamber, communicating with the pipe G, which, by the pressure of the air, keeps a constant stream flowing up the pipe G, as in a fire engine.

A stream one or two inches in diameter, with a fall of four feet, will throw a small, constant stream up a bank fifty or seventy-five feet elevation, in a direct line or obliquely, which stream will be sufficient to supply a house, a barn, and a surplus for use in the garden, or for other purposes. These machines may be used where there is only two feet fall. The quantity of water raised depends on the size of the stream and the fall, and the height it is to be raised. It is estimated that a stream of given dimensions and fall will raise one twelfth of the water ten times the height of the fall. Say, if the main stream falls five feet, and discharges twenty-four gallons per minute, it would throw up a small stream fifty feet, discharging two gallons per minute.

These machines are very durable, being made of substantial materials; and they are not liable to get out of order. They are of various sizes, and they vary in prices from seven to twenty dollars. Where a house is on an elevation, and there is a valley near by, with a small stream of water and a moderate fall, these machines are admirably adapted to throwing water to the elevation for various purposes. These rams may be seen in the Agricultural Room adjoining our office, and they are in operation in many parts of the country.

HAY CAPS.

We hope that farmers will pay sufficient attention to this subject, to obtain a few caps, say enough to secure a ton of hay or more, and try them. Various substances are used, such as old canvas, mats, cotton cloth, &c. Cotton cloth is very cheap, costing but little for the material and making. Take two pieces of cotton cloth, (a yard wide or more,) two yards, or, better, two and a quarter yards long, and sew them together. Turn up the corners, and sew them to make loops, through which sticks may be put and run upward in the hay, to prevent the wind from blowing the caps off.

Some prefer making a loop for the stick by tying a piece of large twine into the loop in the cloth. We prefer cloth about one yard and three to five inches wide, so that the caps may be about two and a quarter yards wide, and the same in length.

In some cases the saving of hay from the use of caps will pay all the expense of the caps in one season; and there have been instances in which the saving by the use of caps during one storm, has been equal to the cost of the caps.

Domestic Department.

Training of Children. — The most essential qualifications for training a child well, are not of a nature to be communicated by books, or lectures on education. They are, first, the desire to be right in the matter; second, sense; third, kindness; and fourth, firmness. Where these are wanting, the wisest admonitions in the world will be of no other use than to relieve the mind of the person who throws them away. The doctrine of an eminent writer, (of a generation now nearly gone,) that a child should be reasoned into obedience, had, in its day, more of a misleading efficacy than might have been thought possible; and many a parent was induced to believe that a child should be taught to give its obedience, not because it *was* obedience, but because the thing ordered was reasonable; the little casuists and controversialists being expected to see the reason of things as readily in real life as in the dialogues between Tutor and Charles. The common sense of mankind has now made an end of this doctrine, and it is known now, as it was before the transit of that eminent person, that obedience — prompt, implicit, unreasoning, and almost unconscious — is the first thing to be taught to a child, and that he can have no peace for his soul without it. That first and foremost rule of exacting obedience is so far from being subject to the condition of showing reasons, that I believe a parent with a strong will, although it be a perverse one, will train a child better than a parent of a reasonable mind, tainted by infirmity of purpose. For, as "obedience is better than sacrifice, and to hearken than the fat of rams," so an authority which is so absolute by virtue of its own inherent strength, is better than one which is shaken by a reference to the ends and purposes, and by reasonable doubts as to whether they are the best and most useful. Nor will the parent's perversity, unless it be unkind or ill tempered, occasion the child half so much uneasiness in the one case, as the child will suffer from those perversities of its own which will spring up in the other. For habits of instant and mechanical obedience are those that give rest to the child, and spare health and temper; whilst a recusant or dawdling obedience will keep it distracted in propensity, bringing a perpetual pressure on its nerves, and consequently on its mental and bodily strength.

To preserve Beefsteaks. — As the warm season is fast approaching, when meat cannot be kept for more than a day or two in a fresh state, it will be of no inconsiderable benefit to many, to be informed, that if fresh meat is rolled up in Indian corn meal, it will keep fresh for four or five days. The steak should be laid down in pieces from one to three pounds, and each covered entirely with the meal. — *North Am. Farmer.*

Youth's Department.

Bees. — The honey-bee surely deserves the first place. Its abode is like a palace, compared with most other insect houses; indeed, from the number of its inhabitants, we may more properly call it a city. The industry, too, of this little creature is such, as to give it a strong claim upon our attention; and I dare say you have often watched it, flying from flower to flower, and returning home heavily laden with yellow dust. The bee has many good qualities besides diligence, to render it a favorite, and these we shall see as we go on with its history.

You most likely have seen a honey-comb, and tasted the sweet liquid it contains. Do you not think it very wonderful, that small insects should be able to make wax and honey, neither of which men have the power of making? How much labor, too, must it cost to build and fill the numerous cells! Let us follow a colony of bees through the various tasks they have to perform, and we shall see with what surprising instincts they are endowed.

Many countries abound with *wild* bees, and these form their own nests; but here we keep them under an artificial covering called a hive, which is made of straw. These hives have a little opening on one side, for bees to go in and out at; they generally stand upon a wooden bench, and in cold weather are placed under some sort of shed.

A swarm of bees, on entering a new hive, immediately want cells or little chambers, in which to store up their honey, and bring up the young. These cells cannot be made without wax; the first business, therefore, is to obtain that substance. You probably suppose that the bees collect it from flowers, and that they will go out and fetch home a store. But no, they seem to be quite idle, and hang in long rows, like garlands, or strings of beads; one at each end taking hold of the roof, the rest clinging to each other's legs; and so they remain for four-and-twenty hours, without moving.

This does not proceed from laziness, however, nor are they waiting to think what must be done: you will never guess why they hang thus; so I must tell you. Wax, instead of being found in flowers, as some people imagine, is formed in thin cakes, under the scales which case the bee's body. It appears that it is made best while they are quite quiet; and this is their way of taking rest. While they are clustering, the wax is forming; and when they have hung a number of hours, it may be seen under their scales, which then appear edged with white.

And now, at last, a bee comes out from the crowd, cleans about an inch, by driving away the others with his head, and settling in the middle of this space, begins to lay the foundation of a comb, which is a flat piece of wax, composed of a great number of cells. These cells are joined to each other's sides, and placed in a double row, end to end, so that each side of the comb is full of holes, fit for containing eggs or honey. The bee we have just mentioned pulls out the little cakes one by one from its wax-pockets, holds them in a pair of pincers, with which its legs are furnished, and works them about with its tongue, which is as useful as a trowel. When these are fixed to the roof of the hive, it disappears among its companions.

Other bees follow this example, adding their little store of wax, until a lump is formed large enough to work upon. The cells are then shaped by another set of laborers, and a third party finish and polish the work, by drawing their mouths, their feet, and their whole bodies over it again and again, until it is quite smooth. Some, in the mean time, collect food, and bring it to those which are working at the cells, that they may not be hindered. When a laborer is hungry, he bends down his trunk before the bee which is to feed him; this trunk is a movable mouth, like what you must often have seen in the fly; a few small particles of honey are poured into it by his companion, and he then goes on with his work. Though there are many thousand laborers in a hive, they do not begin in several places at once, but wait until a single bee has laid the foundation, as I have just described to you. Each bee has only a certain quantity of wax; so they must make it go as far as possible. If the cells were made round, a

great deal would be wasted in filling up the spaces between, as you may see yourselves, if you lay a number of marbles together. If they were square, they would not suit the form of the young bees which are to be placed in them. They are therefore made with six sides, so as to join together exactly, and are very convenient, besides consuming the least wax, and filling the least space possible. Now, the cleverest men might have spent years in discovering this admirable plan; but, taught by God himself, the little insect, without study or contrivance, has adopted it from the hour of its creation. — *Family Visitor.*

Health Department.

ASTHMA. — There is no complaint more harassing than asthma. The Newark Daily Advertiser, a reliable paper, pledges himself to cure this distressing disease with the following simple remedy: Take one and a half ounce sulphur; one ounce cream-tartar; one ounce senna; one half ounce aniseseed; pulverize, and thoroughly mix the same, and take one teaspoonful in about two tablespoonfuls of molasses on going to bed, or at such time through the day as may best suit the patient; the dose once a day may be increased or diminished a little, as may best suit the state of the bowels of the individual.

Half a spoonful of *citric acid*, (which may always be bought of the apothecaries,) stirred in half a tumbler of water, is excellent for the headache.

Mechanics' Department, Arts, &c.

HOW AXES ARE MADE. — The process has been greatly simplified within the last two years. The iron is rolled out in bars the proper width and thickness of an axe, and six, eight, and ten feet long; it is heated, and cut off by a large pair of shears, propelled by water power; another workman picks up the piece, and places it between a die and the punch, and the punch comes down and forces a hole for the handle by punching out a piece. An iron mandrel is then inserted into the hole, and it is immediately put under another press, which forms one side of the axe; it then goes into another die, and forms the other side, and is then placed in an upright position, and a chisel comes down and splits the "bit" of the axe ready for the steel; it is then thrown aside. All this is done at one heat, and in less time than it takes to write the *modus operandi*. The blade of the axe is then put in and welded, passed along to the forger, tempered, and is cast upon the ground to cool. As soon as cold, it is taken up and planed down to an edge by a planing machine, and finished up with emery wheels — painted, labelled, stamped, and is ready for market. — *Bath Advertiser.*

CHARCOAL MELTED. — The possibility of melting charcoal has at length been satisfactorily proved by the experiments of M. Despretz. Up to the present time, chemists have considered this an impossibility; M. Despretz, however, not only melts this refractory substance, but solders one piece to another, and even volatilizes it. The heat to effect this purpose is generated by a powerful galvanic battery; the light and heat evolved is so great that, even in approaching it only for an instant, there is danger of violent headache and pain in the eyes; and moreover, the face may be burnt as by a powerful *coup de soleil*. To avoid this, the operator conducts his experiments under the shades of thick blue glass. Platinum clippings, and other metals difficult to fuse, are readily converted into a solid mass. This will prove of great service in the arts.

NEW USES FOR GRANITE. — The Dublin Evening Post states that a Mr. McDonald, in Scotland, has discovered a method of calcining granite to a fine clay, of extraordinary strength for pottery, especially for making water pipes, some of which are as large as eighteen inches bore. — *Farmer and Mechanic.*

DRAINING WARMS THE SOIL.

It is reported that in a garden in Hampshire, the *temperature of the soil* has been raised fifteen degrees by draining heavy land four and a half feet deep. This, if true, is a prodigious gain — beyond any thing that we could have anticipated as a permanent result, even in summer. Winter is of course excluded from the statement. Circumstances prevent our examining the statement in the case alluded to; but, allowing for some exaggeration, there can be no doubt that a result sufficiently approaching it to be of the greatest value, is attainable.

It is now for the first time that the public attention has been drawn, in the Gardener's Chronicle, to this highly important subject. On the contrary, we have, on several previous occasions, pointed out the undoubted fact that an increased temperature is one of the most valuable results of deep drainage; a more probable cause of the immediate improvement of the health of crops than the mere renewal of water, or introduction of air into the soil. The nature of deep draining is in fact such as to render additional access of air to the roots of plants too inconsiderable to be appreciable. It is only when deep draining and deep trenching accompany each other, that any great access of air to roots beyond what is customary, can be anticipated. Where both are secured, the effect is certainly magical.

We have now before us a piece of land, which in 1845 was trenched and drained to the utmost depth which the nature of the situation would permit. The trenching was through London clay down to gravel, to about three and a half feet; the draining was the same. It could be no deeper. In the winter of 1845–6 it was planted, and the following is now the height after four seasons' growth: Ashes, thirteen to fifteen feet; elms, twelve to thirteen feet; oaks, twelve feet; alders, fifteen feet; larch, thirteen to fifteen feet; mountain ashes, eleven to thirteen feet. Yews have made from eleven to twenty-four inches growth; Douglas firs, *transplanted between August and October*, 1848, fifteen to thirty-one inches; cryptomerias, twenty-one to twenty-four inches; and hollies, eight to twenty-four inches, during the last summer; and what is not a little remarkable, a fuchsia has lived in this place without any protection, only dying annually down to the ground level. All the plants now measured were common nursery stuff when planted. Of course the whole plantation does not consist of trees that have grown at the same rates as those just mentioned; such a thing never occurred; but the trees are in general in the highest possible health and vigor, in a cold, tenacious clay, which before being trenched would hardly bear grass enough to make it worth cultivation.

The improved condition of the land has no doubt contributed to this result; but we think it impossible to doubt that a considerable increase of temperature of the soil must have mainly contributed to produce such exuberant growth. Unfortunately this cannot now be made matter of proof, because no register was kept of the temperature before the trenching and draining were resorted to.

There exists in Essex, not a hundred miles from Brentwood, an orchard of apples, pears, plums, and cherries, which was planted about twenty-two years ago, in a heavy clay trenched down to an iron pan, on which it lies. For a few years the trees grew pretty well, that is to say, as long as their roots were near the surface, and received the warmth of the summer's sun; but as they advanced downwards, the growth became "small by degrees, and beautifully less," till at last it ceased, and nothing flourished but an abundance of gray lichens, with which the branches were covered. The owner was advised to drain it three feet below the pan. In the first year afterwards, vitality was roused so effectually that the lichens began to disappear, cast off by the swelling bark, and the last stage of decrepitude had been exchanged, by the end of the first six months, for youthful vigor. In the second and third seasons after the draining, the trees made shoots from four to five feet long.

We have no doubt that the main cause of this remarkable and sudden change was the elevation of temperature consequent upon every deep drainage. Rain becomes heated by the surface soil, and carries its temperature with it as far as it sinks into the soil. The gain in this way is variously estimated at from ten to fifteen degrees in summer — an enormous gain, which places plants on a hotbed — for soil heated ten degrees above the ordinary temperature is nothing else. Deep draining, therefore, not only offers considerable security against the introduction of roots into water channels, but has the great and unsuspected advantage of considerably raising the temperature of the earth which is in contact with the drains, deep as they may be, for water cannot sink rapidly into earth without carrying warmth along with it. This is now so well understood by men of intelligence, that it is superfluous to dwell upon it. — *London Gardener's Chronicle.*

THROWING BREAD AWAY.

We hear complaints, on all sides, that money is scarce, the times hard, and that it is difficult for the poor, in these dull times, to get a living. We suppose that by the word "living" is meant the prime staple of life, or, as it is sometimes called, the "staff of life," — bread. Now bread is so plenty, that we throw half of it away. In order to show wherein this is done every day, let us "reason together" a little. The principal material of which bread is made, in New England, is flour; and this, you all know, is made of wheat. The good old days of corn bread, and "rye and Indian," have gone by. Times have changed; and we may well say, that we have changed most essentially with them. People may say what they please about the "hardy New Englanders." There used to be such a race; but they are disappearing, and an effeminate race growing up to supply their places. There are many causes for this deterioration of the strength of the people, but the principal cause is the present mode of living. We throw away the best half of the wheat, and eat only the finer parts. Every body must have superfine flour upon their table. Well, to make superfine flour, the wheat must be ground fine; the meal must then be bolted through the finest bolts or sieves; and the bran and other coarser parts are carefully separated, and consigned to the pig trough or cattle manger. What did the Almighty make these parts of the wheat for? For the nourishment of man; but man has become so "*unco*" wise, that he throws them one side, and picks out only the finer particles; and he dearly pays the penalty of his folly, in decreased health, strength, and general stamina of constitution.

Let us inquire into the ingredients of wheat; and, that we may not rest wholly on our own individual authority, we will call others in who have carefully examined the physical and chemical nature of wheat. Prof. Johnston has done this pretty thoroughly, and so we will draw upon him for a few facts.

First, we will take into consideration some of the materials of our bodies; and, second, what is needed to keep up the repairs or supplies of these materials as fast as they are wasted or spent in the course of life.

The solid parts of the human body are fat, muscle, (flesh,) and bone.

The liquid or fluid parts of the body contain also the fat, and muscle, and bone ingredients, in a fluid state, whereby they are conveyed to different parts of the body, to be deposited where needed.

Now, every body knows that these three substances are liable to constant waste, and require to be renewed constantly. To renew them, we must eat food; and if we eat food that contains fat-making, muscle-making, and bone-making materials, and the food is digested in a healthy manner, this waste is repaired with ease and pleasure. As we commenced with the article bread, we will confine ourselves to that. Vegetable food contains these three ingredients or materials, and especially wheat.

That food must be the most nourishing that supplies all the ingredients of the body most abundantly, on the whole, or in proportions most suited to the actual wants of the animal that eats it.

Now, the grain of wheat, you know, consists of two parts, the inner grain, and the skin that covers it. The inner grain is your superfine flour, and the covering is the bran.

The miller is not able to peel the outer part perfectly away from the inner, and so a little of it is always mixed with your flour; but by the process of bolting it is removed more completely than in any other way, and it may be considered as wholly separated.

According to Prof. P., of the *fat-making materials* whole grain contains twenty-eight pounds in one thousand; fine flour, twenty pounds; bran, sixty pounds.

Thus you see, that, while a thousand pounds of whole grain will give you twenty-eight pounds of fat, a thousand pounds of fine flour will give you but twenty, and a thousand pounds of bran will give you sixty.

If, therefore, you grind the wheat all together, you get nearly half as much again of fat-making material.

Well, how is it with *muscle*, or *flesh-making* material? Whole grain contains one hundred and fifty-six pounds in one thousand; fine flour, one hundred and thirty pounds. So you see that wheat, ground all together, gives one fifth part more muscle material than fine flour.

Our muscles, you will allow, are very serviceable, and their strength of great importance to us. Ought we not to supply them with right materials? But when we bolt our wheat, and use only the fine parts, we throw away about two pounds of such out of every ten.

Of the *bone-making* material, whole grain contains one hundred and seventy pounds in one thousand; bran, seven hundred pounds; fine flour, sixty pounds.

You will certainly allow that bones are a very im-

portant part of your bodies; and you will see, by the above, that, as it regards them, the whole meal is nearly *three* times more nourishing than the fine flour.

Now, let us sum the whole together, and see if we have not made out a clear case, viz., that we are daily actually throwing a vast quantity of food away.

One thousand pounds of whole meal contain —		
Muscular matter,	156	pounds.
Bone matter,	170	"
Fat matter,	28	"
	354	
One thousand pounds of fine flour contain —		
Muscular matter,	130	pounds.
Bone matter,	60	"
Fat matter,	20	"
	210	

Now, deduct 210 from 354, and you have 144 pounds of matter very essential to nourishment thrown out. Who, then, will say that we are not throwing away food every day of our lives? Is it any wonder that we are growing up a delicate and an effeminate people? Our children, instead of being fed upon coarse bread, and turned into the open air for exercise, whereby lungs and limbs may be exercised and expanded, are fed on flour cake, of the finest kind, and *mewed* up in air-tight houses, like plants in a hot-bed, which wilt on exposure.

We do not wish to be ultra in our notions or expressions, but we honestly believe that the man who invented the bolt to a flour mill, cursed the nation. — *Maine Farmer.*

THE MOST PROFITABLE BREED OF SHEEP.

There is much discussion upon the question as to the most profitable breed of sheep. One party asserts that the true breed is the finest and purest Saxony; another is equally certain that it is the hardy, gummy Merino; a third is opposed to all fine-wooled sheep, and can only grow the South Down; while still another can see no profit in any but the long-wooled and stately Cotswold or Leicester; while a great multitude are in favor of the mongrels obtained by a cross from a part or all of the kinds mentioned.

The object of raising sheep, as of any other kind of farming, is to make money, — to turn the annual herbage into cash. The best breed of sheep for the farmer to adopt will depend, in a great degree, upon his locality; whether near or at a distance from a good market for live stock, as large towns, or upon railroads leading thereto; whether in a grain-growing or a grazing district, or in a warm or a cold climate.

It is settled that a fine staple of wool cannot be grown upon a profitable carcass for the butcher. A large and early-maturing sheep, like the South Down and Cotswold, cannot be made to produce a fine clothing wool; but the wool they do produce is valuable, and brings a remunerating price, especially the long wool of the Leicesters. Then coarser and larger bodied sheep require a larger amount of pasture, and cannot be kept in large flocks. For the farmer who keeps but a few, say from fifty to one hundred, we should recommend the coarse-wooled sheep. Many a farmer who can keep his fifty or sixty head could make his two dollars annually, clear, upon each, with very little trouble. It would require care; and that is what a great many farmers complain of, though constantly grumbling about hard times. In a warm climate, and especially at the south, fine-wooled Saxons should be preferred. The experience of years demonstrates that, in the growing of fine wool, the south need have no competitor, and we feel fully satisfied that it would now be the most profitable branch of their agricultural industry. There are flocks in that region which produce wool that cannot be surpassed by any in Germany. Among them, and perhaps the very first, is the flock of M. R. Cockrill, Esq., of Nashville, Tennessee. For evenness, firmness, and strength of staple, his flock has not yet been outdone by the very highest-bred German flocks. Though there is little encouragement for growing fine wool any where, yet we should advise our friends south not to abandon it, but to keep steady along; for it will not be many years before they will have the fine wool market entirely to themselves; for the amount of strictly fine Saxon wool grown this side of the Ohio River will grow less and less every year. Some men who have superior flocks, like our friends Reed, of Dalton, Ohio, and Ladd, of Richmond, Ohio, and who are fond of, and understand, breeding, will continue them, and make them profitable; but we fear that, unless there is some great change soon, the Saxon will not spread north and west.

The great belt of our country lying north of the Alleghany Mountains and the Ohio River, and extending clear up to the Rocky Mountains, seems admirably adapted for the Negretti and Infantado branch of the Merino families, as south of that line does for the Escurial and Electoral branch. The best representative of this branch is found in what is now termed the *Vermont Merino.* They are a hardy race, with thick, heavy fleeces, full of gum and yolk, and formed to withstand well the rigors of our hard winters. Like their congener, the Saxon, they delight in a dry soil, and will thrive upon pastures where larger sheep would starve. In Vermont, objections are made to this breed of sheep by wool dealers, because the wool is so heavy by reason of its gum and yolk. It may not be so profitable for them, but it shows the great value of the breed for cold and bleak regions. But as this sheep travels west, it loses this objection; for in this state, and throughout the west, the wool retains its firmness, but loses much of its superfluous gum and oil, but none of its vigorous constitution. Crossed upon the common breeds of Ohio, Michigan, and the other western states, it produces a valuable breed, giving a finer and heavier fleece, and a stronger and more healthy habit. This breed is not confined to Vermont, but may be found, in great purity, in this state, and Connecticut, and Massachusetts. Among the best now in our mind is the flock of our friend, Mr. Dickinson, of Victor, whose communication on the subject of his flock can be found in the last volume.

It is not necessary here to particularize the various mongrel breeds which have grown out of these great leading families. We believe that one great cause of controversy has arisen from not taking a true view of the great and natural division of our country into northern and southern wool-growing sections. Around large cities, and upon small farms, coarse-wooled sheep will be found the most profitable; while in the milder climate of the south the Saxon, and in the colder regions of the north the Merino, will be found the true breed. — *The Wool-Grower.*

POULTRY RAISING.

Having had some experience in breeding poultry, I will state a few facts that have come under my observation, presuming, however, that they will be of little interest in comparison to the writings of the able pens that have preceded me on this subject. There appears to be felt a considerable interest in regard to the numerous breeds of foreign fowls that now begin to be common among us; and the only

important question is, Are they any better than our common breeds?

Allow me to make a few remarks on the *Poland Fowl*, to begin with. Some few years ago, I purchased a pair of this breed, for which I paid *four* dollars. They were of a shining jet black, with white tufts, or topknots, on their heads, of great beauty. I was told that they were great layers, and that they never sat for incubation, or hatching their young. If these facts were true, I considered a great difficulty overcome to the successful keeping of fowls as a matter of *profit*. In brief, I found that my hens of this breed, after a fair and full trial, did not lay any more eggs during the year, in the aggregate, than our ordinary fowls, that sit once in a season, and rear but one brood of chickens! Three, and sometimes four, eggs a week, per hen, were the average number laid by them. The chicks were raised under other hens.

In regard to *sitting*, it is true that they do not sit; but it is rather a disadvantage, since they will frequently make a mock attempt at it, and cover their eggs a few days, a part of the time, render them addle, and leave them. They are, also, diminutive in size. Their flesh is of a poor flavor, and it is very hard fattening them; and, in fine, as a market fowl, or for the table, they do not begin to compare with some of our domestic breeds, that can be purchased for fifty cents or less per pair, the country over. They are greatly subject to diseases; so much so, indeed, that I think I may safely say, that a hundred of them would employ constantly one person skilled in the "Materia Medica" of dunghill tribes. They are very tender, fit for a southern latitude only, one would suppose, from the effect of a severe winter upon them.

I found that, in order to breed these fowls in pure blood, they must have a yard by themselves, and not even be allowed to *see* other fowls! It is, indeed, a fact, that the mere act of witnessing other fowls, in adjoining enclosures, will destroy the purity of the breed. [This is new to us. Can it be explained? — Eds.]

I crossed the breed with success. I placed a Poland cock with a half dozen hens of the *Dominica*, or blue-spotted breed. This amalgamation produced a beautiful black hen, with a close coat of feathers, and a fine, black tuft of feathers upon the head. The color was invariably a perfect jet black in hens, while the cocks were also black, but with a white tuft upon the head, less full, and more upright, than the pure breed. The hens were fine, constant layers, seldom wishing to sit. Their flesh was well flavored, and the degree of fattening that they attained, when well fed on corn, oats, &c., was astonishing. Indeed, on one occasion, I had to put them on a short allowance, even in the season of incubation, when fowls are generally poor, fearing that I should lose them through extreme fatness or obesity.

If one desires a fowl for its singularity and beauty, it is well enough to buy Polands; but he who purchases in the expectation of finding them a more profitable fowl than our common breeds, will find himself sadly mistaken. It is probably true, that, on some occasions, there have been great layers of this breed; and the same of any other kind. If a gentleman should chance to get a large number of eggs from any single or specific number of fowls, on some particular occasion, it is no criterion of what *every* man may do. They have their years of prolific abundance, and they have their seasons of sterility. Food and good management, in the rearing of fowls, have their beneficial results, but the same person seldom succeeds alike during a series of years.

T. B. MINER.

Clinton, Oneida Co., N. Y.
—*American Agriculturist.*

PULVERIZED WOOD FOR CATTLE.

The following new thing, in the way of food for cattle, is furnished by a Mr. Daniels to Chambers's Journal. He says, "About three years since, I had occasion to send my cart-horses frequently through a piece of coppice wood, and whenever it happened that they stopped within reach of the rods, they would greedily devour every bough they could come at. This I noticed many times. At last I was led to examine the rods on which I had seen them feeding, and found them completely stripped of their branches, some of which were of a very considerable thickness. This led me to suppose that there must be some good qualities in the wood; and this consideration induced me to get some pulverized, and given to my cart-horses, which experiment was repeated at several different times, until I was fully satisfied that it had no injurious effect on them. After this, I was led to give it to my gig-horses with their corn; and, having ascertained that it did them no injury, I had machinery prepared for reducing the wood for the purpose of food, and began to feed both cart and gig-horses, as also my cows and pigs, mixing a portion with all the food which was given them. This practice I have continued for the last ten months. Previous to feeding my horses in this way, they had each three quarters of a peck of oats and beans given them per day, for which are now substituted three pints of barley per day. They are in equally fine condition as when fed in the usual way, and more playful and free in their work. Soon after the wood was mixed with the fodder given to the cows, their milk, as well as their condition, was much improved. For several weeks past, I have been feeding sheep with the pulverized wood, together with crushed Swedish turnips; and they also appear to improve by it. I have likewise fatted four pigs successively, mixing this food with barley meal, and the results have proved most satisfactory."

This statement, however strange it may sound, is not so startling, when we remember that the woody matter of trees is, in its chemical nature, nearly allied to starch, and that it always contains some nitrogen; so that, in reality, it furnishes the ordinary materials of food, in another form. We presume, however, that white-wooded, and not resinous, trees are those which furnish Mr. Daniels's cattle with the ligneous pulp they thrive so well upon.

THE CODLING MOTH.

We copy from Hovey's Magazine of Horticulture part of a communication upon the insect which is the parent of the apple worm, that is so destructive to our fruit. It is by M. H. Simpson, Esq., Saxonville, Mass.

The other insect to which I alluded is the codling moth. This little moth deposits her egg in the eye of the apple; they commenced last year about the 15th of June, and were so destructive on my trees, as to take about all the curculio spared, and many of the Bartlett and Passe Colmar pears. They are about all the season, or until the middle of September. There are two or three crops of them. I produced them from the egg in about five weeks. They were two weeks eating before they were ready to go into the chrysalis state, and three weeks before the perfect moth appeared. They are a small gray moth, with a distinct mark upon the hind part of the wings, of a brown color, edged with copper; they do not extend their wings more than seven eighths of an inch; they are very lively at night, and entirely at rest in the daytime, from which I infer that they fly only at night. I have never been able to find one

upon the trees. After the egg is hatched, the worm eats to the centre of the apple, and then out at the side, and are the cause of the windfalls, or *moth-falls*. I saved a number of apples by placing a piece of beeswax over the eye; but the plan, for practical purposes, is to syringe the fruit with whitewash. This will fill the eye, and thus prevent the moth from laying her egg. I am happy to state, that I discovered a trap for the larvæ of this insect, by which an orchard can be cleared of them with little labor. Noticing two or three of the larvæ creeping upon a piece of *cotton cloth*, which was thrown accidentally into the crotch of an apple-tree, my curiosity led to further examination, and, to my surprise and pleasure, I found thirty of the larvæ in their silken homes, going through their chrysalis state. They knit the folds of cloth together with silken ties, and there quietly change from the loathed worm to the perfect insect, which is perhaps as beautiful, under a microscope, as any production of the insect tribe. I again placed the cotton cloth in the crotch of the tree, and examined it in three weeks, and found another encampment of them in the same state, and hence concluded they were quite in my power with very little labor. The cloth should be placed in the tree about the 25th of June, and should be examined every three weeks, as it requires about this time to go through the chrysalis state. In one or two seasons, they must be destroyed, if this operation should be followed up. They find their silken web very readily attach to the little fibres of cotton, and, by tying the cotton cloth to the tree, the wind will not disturb them.

There is still another insect which does some damage to the foliage and fruit of trees. The perfect insect is a long, dark, slender fly, with long feelers and two steerers behind; they were found on the trees as early as the 15th of March, mating; they lay their eggs in the young bud. As soon as it opens, the egg hatches, and the young larva commences eating the young leaves, and curling them up, in which he makes his home. They are destroyed by applying the whitewash to the limbs of the tree. The whitewash also kills a very destructive little insect, the eggs of which are contained in little muscle shells, on the bark of the apple and pear trees; [a species of coccus. — Ed.] I will communicate the effect of syringing the trees with the wash before the buds break, in July, when the whole effect of the experiment will be known.

THE RAVAGES OF INSECTS.

Such insects as Hessian and wheat flies, curculios, weevils, army and boll worms, annually destroy crops to the amount of twenty millions of dollars. If a pirate on the high seas, or an Indian savage on land, injures the property of a citizen to the amount of a few dollars, millions are expended, if need be, to punish the offender. This is right. But when public enemies of a different name do a thousand times more injury to a whole country, are its citizens under any necessary restraint which forbids their making a common effort to protect their property from insect devastators? Parasitic plants, such as rust on wheat, and many fungi, as well as injurious insects, are on the increase. To attempt to explain the reasons *why* this is so, would lead at once into questions in animal and vegetable physiology, out of place in this brief synopsis of such rural topics as are believed to be of general interest. It may not be amiss to remark, however, that many boys are apparently educated to kill all small birds that subsist mostly on insects, so soon as these youngsters are large enough to shoulder a gun.

Government can do much to check the ravages of insects, by collecting and diffusing useful information as to their habits, times of transformation, and the best means of destroying or avoiding them. If farmers fold their arms, and say that nothing can be done by the science of entomology, nor by any other means, what but an increase of the evil is to be expected? Not to *try* to escape the infliction, is treating one's enemies with unmanly forbearance, and evinces a belief in fatalism worthy a disciple of Mahomet. — *Patent-Office Report for* 1849.

ANALYSIS OF SOILS, MARLS, AND FERTILIZERS.

Something should be done in reference to the analysis of soils, fertilizers, marls, and other minerals constantly sent to the patent-office for that purpose. For many years, chemists and philosophers have been investigating the affinities and other peculiarities of "molecules," or ultimate indivisible particles of matter. These scientific researches have revealed many important truths and natural laws, which have a direct bearing on all the economical purposes of agriculture. Some pains should be taken to impart a knowledge of these laws to all practical farmers. When we consider how little opportunity the mass of agriculturists have to study the chemical composition of their soils and crops, it will readily be seen that information of this kind is greatly needed in all operations which aim to feed cultivated plants with their appropriate aliment.

Prof. Henry, the distinguished secretary of the Smithsonian Institution, has authorized me to say that the extensive chemical apparatus and excellent laboratory of the institution will be at the service of any reputable chemist, to make investigations for the increase and diffusion of knowledge in this branch of science.

I have compiled for this report about one hundred analyses, embracing most of the cereals, several grasses, clovers, legumes, roots, cotton, tobacco, flax, and the ash of fruit and forest trees, from the latest European and American authorities. These analyses will be found valuable for reference.

An elaborate paper on the "Study of Soils," giving the chemical composition of their parent rocks, the amount of the elements of crops in a cubic foot of earth available as food for plants, together with researches into the annual production and consumption of mould, the variation of the temperature and hygrometric properties of soils, has been deferred, to keep this document within a moderate size. For a similar reason, no space has been allowed for mere *guesses* at the quantity of grain and other crops grown in the year 1849. — *Ibid.*

Tax on Farming. — The county commissioners, for some years past, have assessed upon farmers a tax for their occupations, for county purposes. Objections having been made against this as illegal, a case was stated for the opinion of the court, and argued before his honor Judge Gordon, by Messrs. Filbert and Sallade for the county commissioners, and Henry W. Smith, Esq., on behalf of the farmers. On Friday last, the court gave judgment for the defendants, thereby deciding that it was illegal to tax farmers for their occupations. — *Berks Co.* (*Pa.*) *Press.*

A Fact for Dairywomen. — I. B. Philbrook, says the Vermont Chronicle, kept three cows on his farm last year, from which his mother, a lady ninety years of age, with his assistance, made, in nine months, nine hundred pounds of butter, eight hundred pounds of which were sold in the town of Hardwick. This is a fact worthy of record and emulation.

NOTICES OF PUBLICATIONS.

GALLERY OF ILLUSTRIOUS AMERICANS. — This work contains the portraits and biographical sketches of twenty-four of the most eminent citizens of the republic, since the death of Washington. It is a very splendid and beautiful work, published semi-monthly, on imperial folio drawing-paper, in a new and magnificent style. These portraits are very skilfully executed, and do great credit to the artists, Brady and D'Avignon. The letter-press, or biography, by the editor, C. Edwards Lester, is brief, comprehensive, and appropriate. No. six contains the portrait and history of Col. Fremont, senator elect from California, and one of the most illustrious men of the age. New York: G. P. Putnam; D. Appleton & Co.; C. S. Francis & Co. — Boston: Redding & Co., 8 State St.

THE ILLUSTRATED DOMESTIC BIBLE, by Rev. Ingram Cobbin. — We have examined the specimen number of this work. The mechanical execution is remarkably neat, the print of good size, clear, and distinct; the illustrations are prepared for instruction rather than decoration; and the commentaries and practical reflections are judicious, interesting, and well adapted to edify and instruct the reader; and they are apparently free from sectarian bias. The editor has long been distinguished for his sound evangelical writings and anti-sectarian principles. This work is published by Samuel Hueston, 139 Nassau St., New York, at 25 cts. a number; to be completed in twenty-five numbers. It will contain seven hundred engravings, and three finely executed steel maps. It will be issued on the first and fifteenth of each month.

He who swallows up the substance of the poor, will, in the end, find that it contains a bone which will choke him.

THE GRAND EXHIBITION OF 1851.

BY MARTIN FARQUHAR TUPPER.

Hurrah for honest Industry! hurrah for handy Skill!
Hurrah for all the wondrous works achieved by Wit and Will!
The triumph of the artisan has come about at length,
And kings and princes flock to praise his comeliness and strength.

The time has come, the blessed time, for brethren to agree,
And rich and poor of every clime at unity to be,
When Labor, honored openly, and not alone by stealth,
With horny hand and glowing heart may greet his brother Wealth.

Ay, Wealth and Rank are Labor's kin, twin brethren all his own,
For every high estate on earth, of labor it hath grown;
By duty and by prudence, and by study's midnight oil,
The wealth of all the world is won by God-rewarded toil!

Then hail! thou goodly gathering, thou brotherhood indeed!
Where all the sons of men can meet as honest labor's seed;
The tribes of turbaned Asia, and Afric's ebon skin,
And Europe and America, with all their kith and kin!

From east and west, from north and south, to England's happy coast,
By tens of thousands, lo! they come, the great industrial host, —
By tens of thousands, welcomed for their handicraft and worth;
Behold! they greet their brethren of *the workshop of the earth.*

Right gladly, brother workmen, will each English artisan
Rejoice to make you welcome all, as honest man to man,
And teach, if aught he has to teach, and learn the much to learn,
And show to men, in every land, how all the world may *earn!*

Whatever earth, man's heritage, of every sort can yield,
From mine and mountain, sea and air, from forest and from field;
Whatever reason, God's great gift, can add or take away,
To bring the worth of all the world beneath the human sway;

Whatever Science hath found out, and Industry hath earned,
And Taste hath delicately touched, and high-bred Art hath learned;
Whatever God's good handicraft, the man He made, hath made;
By man, God's earnest artisan, the best shall be displayed!

O, think it not an idle show, for praise, for pride, or pelf;
No man on earth who gains a good can hide it from himself:
By any thought that any thing can any how improve,
Who help along the cause of all, and give the world a move!

It *is* a great and glorious end to bless the sons of man,
And meet, for peace and doing good, in kindness while we can;
It is a greater and more blest, the human heart to raise
Up to the God who giveth all, with gratitude and praise!

TERMS. — THE NEW ENGLAND FARMER is published every other Saturday, making a neat and handsome volume, at the close of the year, of 416 pages, at $1 a year, or five copies for $4, payable in advance. It may be elegantly bound in muslin, embossed and gilt, at 25 cents a volume, if left at this office. As it is stereotyped, back numbers can be furnished to new subscribers.

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